NORTHAMPTONSHIRE ARCHAEOLOGY
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ARCHAEOLOGICAL EVALUATION AT MILTON HAM, NORTHAMPTON

CONTENTS

ILLUSTRATIONS

APPENDICES

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ARCHAEOLOGICAL EVALUATION AT MILTON HAM, NORTHAMPTON

Abstract

An evaluation was carried out by Northamptonshire Archaeology at Milton Ham, Northampton, to examine geophysical anomalies revealed by an initial gradiometer survey. A Romano-British 'ladder' enclosure, approximately 150m long and 35m wide, was revealed in the north-east corner of the area, which produced evidence to suggest almost continuous occupation of the settlement throughout the Roman period. A single sherd of possible Saxon pottery recovered from one of the enclosure ditches offers inconclusive evidence for possible Saxon activity in the general area. Beyond the enclosure only sporadic archaeological remains were found. These include a ditch containing a single sherd of Iron Age pottery and a fragment from a polished stone axe. A second ditch and a pit, both of which were undated, were also found. Remnant ridge and furrow was observed as faint earthworks across the site.

1 *INTRODUCTION*

An archaeological evaluation was undertaken by Northamptonshire Archaeology on c.14 ha. of land to the north-east of Junction 15a of the M1 motorway, at Milton Ham, Northampton (Fig 1; NGR SP 730 573).

Northamptonshire Archaeology was commissioned by CPM environmental planning and design, acting on behalf of Gazeley Properties Ltd, to undertake a programme of field evaluation in advance of the determination of a planning application for the proposed development of the site. The work was carried out in order to assess the likely impact of proposals upon any archaeological remains. It formed a second phase of a scheme of evaluation associated with the proposed development, the first phase being a detailed gradiometer survey of the site which was carried out by West Yorkshire Archaeological Services (WYAS 2002). The results of the gradiometer survey were used to inform the trenching strategy.

The aim of the evaluation was to determine the date, extent, nature and state of preservation of any archaeological remains within the application area.

The current phase of work was carried out in accordance with a specification prepared by CPM (2002), and took place in April 2002.

2 *BACKGROUND*

2.1 *ARCHAEOLOGICAL BACKGROUND*

The Northamptonshire Sites and Monuments Record does not detail any archaeological sites or other features or finds within the application area. However, the extensive remains of a pattern of small settlements of late prehistoric and Romano-British date are recorded in the immediate vicinity. The gradiometer survey (WYAS 2002) revealed several areas of archaeological potential, particularly in the north-east corner of the site (Block E), where there was an extensive complex of linear and curvilinear anomalies (Fig 2). These were interpreted as a possible late prehistoric/Romano-British 'ladder' enclosure, measuring approximately 150m from north to south, with a maximum width of c.35m. In addition, a length of curvilinear ditch was recorded in Block A and a linear ditch in Block C. Block B showed possible 'pit-like' features. The remains of ridge and furrow earthworks and modern disturbances were recorded across the site.

2.2 *TOPOGRAPHY AND GEOLOGY*

The site is situated immediately to the north-east of Junction 15a of the M1 motorway, and comprises five fields surrounding the former site of Milton Ham farm (now demolished). All the fields are under pasture. The site is bounded to the west by the A43 and to the south by the M1 motorway. The ground dips very slightly to the north and east from a slight crest occupied by the former farm buildings, the level reducing from approximately 75m to 68m above Ordnance Datum. The underlying geology is Boulder Clay (*Geological Survey of Great Britain; England and Wales* 1969, sheet 202).

3 *METHODOLOGY*

Eight trenches, with a total length of 245m, were excavated using a JCB-type mechanical excavator fitted with a 1.6m wide toothless ditching bucket. The trenches were positioned to target anomalies located by the gradiometer survey. An additional 5m of trench were added to the north-west end of Trench 4, and the trench was moved 5m to the north-east to include a section of the main eastern ditch of the enclosure. All overburden was stripped under

archaeological supervision, with the topsoil and subsoil stacked separately adjacent to the trenches. Mechanical excavation proceeded to the top of the archaeological deposits, or to the natural substrate where no archaeology was encountered. In Trenches 1 to 4 the subsoil sealed a buried soil horizon into which many of the archaeological features were cut. The upper part of this layer was heavily disturbed by deep ploughing and the features could not be defined until this layer had been removed. Before the removal of this layer the features appeared diffuse and no clear edges could be discerned.

The trenches were cleaned by hand. Each feature or deposit was given a unique number consisting of the trench number and an individual context number (e.g. 3/02, trench 3, context 2). The details of each context were recorded on pro-forma sheets. The trenches were levelled top and bottom at either end, and in the centre, and all major features were levelled, with heights being related to Ordnance Datum. Trench locations were related to the National Grid. A photographic record was made of the excavation, using both 35mm black and white negative and colour transparency films. The spoil heaps were scanned with a metal detector to ensure maximum finds retrieval.

All works were carried out according to the IFA Code of Conduct and Standards and Guidelines, and all procedures complied with the Northamptonshire County Council health and safety provisions and Northamptonshire Archaeology Health and Safety at work Guidelines.

4 *RESULTS*

The trenches were 30m long and 1.60m wide, with the exception of Trench 4, which was 35m in length. Trenches 1-4 were positioned to examine the 'ladder' enclosure and its interior (Block E), while Trench 5 was located to identify if any features were present outside the enclosure. Trench 6 was located in Block C to examine a linear anomaly, and Trench 8 was opened in Block A to examine a curvilinear anomaly on the far western edge of the site. Trench 7 was located in Block B to investigate amorphous and discrete anomalies noted in the geophysical survey.

Across the site the topsoil was a mid greyish brown sandy loam, approximately 0.25m thick. This overlay a subsoil, a mid brown clayey silt, which was partly absent in Trench 7 but lay up to 0.44m thick in Trench 6. The underlying natural substrate was generally a mid yellowish brown silty clay with patches of sandy gravel in an orange-brown silty clay matrix.

A summary of the contexts and features is given in Appendix 1. In the text, context numbers in squared brackets (i.e. [*]) indicate a cut, other context numbers refer to fills.

Trench 1 (Fig 3)

Trench 1 was positioned to examine four linear anomalies within the interior of the enclosure. These were confirmed as archaeological features and in most cases were formed of paired or intercutting ditches. With the exception of [105], all were aligned roughly east to west. All the features appeared to cut a buried soil horizon (134), which extended in section the full length of the trench and varied between 0.20m and 0.30m in thickness. This layer comprised a mid to dark brown clayey silt with charcoal flecks, and was heavily mixed with material from the subsoil. This was probably caused by deep ploughing (see Trench 5 below). The upper surface of the archaeological deposits was generally 0.6m below the current ground level.

Ditch [107] had a steeply sloping, U-shaped profile and was 1.35m wide and 0.62m deep (Fig 5, section 1). The fill 106 was a dark greyish brown clayey silt with gravel inclusions, charcoal flecks, sherds of possible *imbrex* Roman roof tile and late 1st to 3rd century greyware pottery. It also produced a copper alloy ring (SF1), of unknown date and indeterminate function.The upper part of the fill was cut by an oval pit [110], filled with a charcoal flecked dark grey clayey silt (109). This contained a discrete layer of burnt angular limestone cobbles (108), which may represent the remains of a hearth. No associated layers of burnt debris were present. A small stakehole [131], with a diameter of 0.14m, lay 0.60m to the south of [110] with which it may be associated. On the eastern side of the trench and forming a junction with ditch [107] was another ditch [105], which was aligned roughly north to south. This feature was only partly exposed in the base of the trench so its full extent and relationship with [107] could not be fully determined.

Approximately 4m to the north of [107] there was a series of three parallel, intercutting ditches, [112], [115] and [117] (Fig 5, section 2). They had a combined width of 2.80m and a maximum depth of 0.65m, and probably represent re-cuts of one of the internal boundaries of the enclosure. The fill of all three ditches was a homogeneous greyish brown silty clay, so it was not possible to establish their stratigraphic relationships.

A second series of parallel ditches, again probably representing re-cuts of one of the internal boundaries, lay immediately north of the centre of the trench. The first of these [119], which was 1.70m wide and 0.60m deep, had a steeply sloping U-shaped profile, and cut an earlier

feature [138]. This heavily truncated feature may have been the terminal of an earlier ditch on a similar alignment. Another ditch [121], c.0.80m wide and 0.58m deep, ran parallel and slightly to the north of [138]. Pottery from fill 118 dates to between the 2nd and 4th centuries AD.

There were two further ditches to the north of [121]. Ditch [127], which was 0.95m wide and 0.48m deep, had a V-shaped, narrow 'cleaning slot' type profile, and contained a dark greyish brown silty clay (126) over an orange-brown mottled silty clay (113). The ditch was cut by feature [136], only part of which was revealed in the trench. The southern edge of the ditch cut a shallow oval pit [133]. Approximately 0.50m to the north of [127] was a substantial ditch [129], which had moderately steep sides and a flat base, 0.60m wide. The ditch was 2.40m wide and 0.93m deep below the base of the subsoil, and was filled with a dark grey silty clay 128.

Two postholes [123] and [125] lay between ditches [121] and [127]. They were approximately 0.50m in diameter and 0.17m deep and were filled with a charcoal flecked mid grey silty clay (122 and 124).

Trench 2 (Fig 3)

This trench was positioned across the main western ditch of the 'ladder' enclosure, identified from geophysical prospection. Archaeological features were encountered at a depth of between 0.50m and 0.80m below current ground level, directly beneath the subsoil. As in Trenches 1,3 and 4, in section in the south-east half of the trench there was a buried soil horizon (215), between 0.20m and 0.30m thick, extending c.16m from the end of the trench. This layer, a mid to dark brown clayey silt with occasional charcoal flecks, was heavily disturbed by deep ploughing and was mixed with material from the subsoil and the natural substrate.

Two small, parallel ditches [205] and [207], c.5m apart, cut 215. The ditches were c.0.60m wide and c.0.30m deep below the base of the subsoil, and were aligned east to west. They were filled with a dark greyish brown silty clay and contained pottery dating from the 2nd to the 4th centuries AD. Fill 206 contained a single sherd of possible Saxon pottery.

The main western ditch had an overall width of 2.20m and a maximum depth of 0.90m below the base of the subsoil. It comprised two cuts. The primary cut [209] was V-shaped with a flat

base c.0.20m wide, and had moderately steep sloping sides. The main fill was a dark brown silty clay with greyish and reddish brown mottles. The upper fill 212 (soil sample 1), which dipped to the west and thinned out to the south, was a thick tapering lens of weakly cemented charcoal flecks and burnt clay, with occasional sherds of pottery and small fragments of tile. There was a single small piece of undiagnostic, light slag. This deposit was probably deliberately dumped into the ditch as refuse, and is of possible industrial origin. The upper western part of [209] was truncated by recut [214]. This had a steeply sloping western edge, a roughly flat base and a far shallower eastern slope. It was filled with a dark greyish brown silty clay, the upper part of which was heavily disturbed by deep ploughing. The western edge of the enclosure ditch cut a rather irregular, possibly curvilinear feature [211], with a heavily mottled fill 210. This undated feature was 0.95m wide, 0.25m deep, and was aligned roughly north to south.

Trench 3 (Fig 3)

This trench was located to the east of the enclosure, to sample a curvilinear and two linear geophysical anomalies in this area. The ground dipped markedly from west to east, and the thickness of the subsoil varied accordingly. The buried soil horizon (318; soil sample 2) observed in Trenches 1, 2 and 4 was present, extending c.12m from the west end of the trench before petering out. All of the features at this end of the trench cut this layer. Generally the surface of the archaeology was at c.0.40m below current ground level.

The linear anomaly at the east end of the trench consisted of two parallel and slightly inter-cutting gullies [313] and [315]. They were approximately 0.65m wide and 0.30m deep below the base of the subsoil, and were aligned north to south. The fills 312 and 314 were identical so it was not possible to discern their relationship. Similarly, the curvilinear anomaly in the centre of the trench also consisted of two intercutting gullies or small ditches [309] and [311], with [309] cutting [311]. These had a combined width of 1.30m and a maximum depth of 0.40m. Both contained dark greyish brown silty clay fills 308 and 310, the latter containing frequent flecks of charcoal and occasional pieces of burnt clay. Two further ditches, [305] and [307], were revealed at the west end of the trench. These were c.2-3m apart and were slightly divergent to the north-east. Ditch [305] was 0.80m wide and 0.45m deep and bulged slightly at its southernmost end, suggesting that there may be another intercutting feature present. Ditch [307] had similar dimensions and thinned to the north-east to a rounded terminal. A small, shallow pit or posthole [317] was excavated c.8m from the east end of the trench. The fill 316 contained two small cobbles that may have been post-packing. Roman pottery of

indeterminate date was recovered from most features and several contained fragments of roofing tile.

Trench 4 (Fig 3)

Trench 4 was positioned to examine one of the 'rungs' of the ladder enclosure and its junction with the main eastern ditch, and the continuation of the main western ditch uncovered in Trench 2. In total six features were present in this trench, lying at a depth of between 0.40m and 0.55m below the current ground surface. In section beneath the subsoil, the buried soil horizon observed in Trenches 1-3 was also recorded. This layer (415), which in places was heavily disturbed by ploughing, extended c.20m from the south-east end of the trench, and was up to 0.30m thick. It was cut by gullies [407] and [411], and ditch [405], and sealed ditches [409] and [414].

The western ditch of the enclosure [417] was quite substantial in plan, being approximately 2.50m wide, but it was not excavated due to flooding by groundwater at the north-west end of the trench. At the south-east end of the trench the anticipated junction comprised three inter-cutting ditches. The earliest ditch [409], forming part of the eastern perimeter, was only partially revealed in the corner of the trench and its full extent could not be determined. It was cut by ditch [414], one of the 'rungs' of the ladder enclosure, a substantial ditch aligned from east to west, and over 1.80m wide and 0.45m deep beneath the base of 415. The northern edge of ditch [414] was truncated along its length by a steep sided, V-shaped ditch [405], which was 0.95m wide and 0.70m deep below the base of the subsoil.

This feature probably represents a recut of the interior ditch. Running parallel c.2m to the north of [405] was a steep-sided U-shaped gully [407], 0.65m wide and 0.35m deep, with a rounded terminal at its western end. The fill 406 was a dark greyish brown clayey silt. A gully [411] with a similar shape, dimensions, alignment and fill was uncovered in the centre of the trench. Roman pottery of indeterminate date was recovered from most features and several contained fragments of roofing tile.

Trench 5 (Fig 4)

A single undated pit [505] was located below the subsoil, 0.45m below the modern ground surface (Fig 5 section 6). The oval pit was 1.60m long, c.0.70m wide and 0.27m deep and was filled with a mid brown clayey silt with moderate charcoal flecks. The natural substrate in

this trench was heavily scored with parallel plough-marks, running from east to west. These were probably caused by deep ploughing to level the ridge and furrow, in order to improve the land for modern agricultural practices. Faint traces of ridge and furrow, aligned from north to south, could still be seen on the surface to the east of Trench 5. This clear evidence for deep ploughing in this field explains the disturbed appearance of the buried soil horizon in Trenches 1-4.

Trench 6 (Fig 4)

In the centre of the trench, at c.0.60m below the ground surface, a broad, deep ditch [605] was uncovered beneath the subsoil (Fig 5, section 7). The ditch was aligned north-north-west to south-south-east and had steeply sloping sides and a concave base. It had a width of c.2.60m and a depth of 0.70m below the base of the subsoil. The fill 604, a compacted mid brown clayey silt with mid grey mottles, contained no finds. On the surface there was no break in the surviving ridge and furrow earthworks, suggesting that the ditch at least predates the medieval period.

Trench 7 (Fig 4)

There were no archaeological features in this trench. The discrete and amorphous anomalies shown in the geophysical survey were caused by variations in the natural substrate.

Trench 8 (Fig 4)

In the centre of the trench, at c.0.50m depth below the ground surface, a broad shallow ditch [806] was revealed. The ditch was aligned roughly from north to south and was c.2.20m wide and 0.31m deep. The upper fill 804 contained a single sherd of early Iron Age pottery, a number of struck flints and a fragment from a polished stone axe. The discrete anomaly shown in the geophysical survey at the eastern end of the trench was a natural variation in the substrate.

5 *THE FINDS*

The Pottery

The evaluation at Milton Ham, Northampton produced a small assemblage of pottery, mainly Roman and dating from the late 1st to the 4th centuries AD. In addition a single, abraded sherd of Iron Age pottery (Dennis Jackson pers. comm.) was retrieved from Trench 8 (804) and a very

small sherd of possible Saxon pottery came from Trench 2 (206). In total there are 85 individual sherds, weighing in excess of 1.4kg. Most of the material derived from a series of ditches in Trench 1, with much smaller quantities coming from Trenches 2, 3, 4 and 8. A summarized table of the pottery by context is given in Appendix 2.

The assemblage comprises mainly locally produced table, kitchen and storage wares, together with a small quantity of imported Samian. Local greywares predominate, together with smaller quantities of shell-gritted ware, grog-tempered ware, and colour coated wares manufactured in the Nene Valley. Chronologically the earliest Roman forms represented are grog-tempered and greyware channel rim jars, which date to the late 1st to 2nd century. Other greyware forms include necked and neckless jars and dishes with plain rims. Shell tempered and grog-tempered sherds are generally undiagnostic.

Kitchen wares are represented by fragments of mortaria, necked and neckless jars. Local tablewares include colour coat beakers which date to the 3rd/4th century, plain rim dishes in greyware, while imported tablewares are represented by three sherds of Samian, a fragment of a ?footring, a body sherd (decorated with an ovolo motif) and a rim sherd from a Dragendorf Type 37 hemispherical bowl with plain bead rim (Webster 1996, Fig 32) and moulded decoration. This style of bowl dates from AD70 to the late 2nd century.

Ceramic Tile

A total of 15 fragments of tile, weighing in excess of 1kg were recovered. Much of the assemblage comprised abraded and undiagnostic fragments, which hampered identification. Nevertheless, using fabric and form the entire collection could be identified as being of Roman date. Identifiable pieces of roof tile are represented by fragments of tegulae (2) and imbrex (4). In addition there was one fragment of box flue tile, identified by the presence of combed keying lines. There are two main fabric types, a shell-gritted fabric that is buff/brown in colour and a coarse sandy fabric fired to a pale orange/orange colour.

Other Finds

A copper alloy ring/ferrule (SF1), of indeterminate function, was found in the base of ditch [107]. It was cast and had a sub-rectangular cross-section, with two small projections on the outside edge that suggest that the object is incomplete and an integral part of it has broken off. The internal diameter was 20mm, the external diameter was 29mm, and it had a height of 10mm.

The Animal Bone

Nine fragments of animal bone were hand collected from five contexts, and examined in order to gain an idea of the species present, the state of preservation of the bone and any potential for further analysis.

Preservation was poor with heavy fragmentation and moderate surface abrasion. Two possible instances of canid gnawing were noted. No evidence for burning or butchery was observed. Only three fragments were identifiable to species level; these were *Bos* (cow) horncore (context 304), *Bos* molar (context 408) and *Ovicaprid* (sheep/goat) metapodial (context 308). Three further fragments could be categorised as small ungulate and another two fragments appeared to be large ungulate. Potential for further analysis is extremely limited due to the paucity of material and its poor preservation.

The Worked Flint and Stone

Part of a Neolithic polished stone axe was recovered from context 804 (SF 2). It comprises a small flake, 32mm long, from the body of the axe, and possesses no diagnostic features. Visual examination indicates that it is a fine-grained green-grey stone, which appears to be an epidotised tuff (Group VI), which has its principal source in the central fells of the Lake District, Cumbria.

Context 804 also produced a piece of shattered flint and a burnt flint. A small flint flake with miscellaneous retouch was recovered from context 301.

6 *ENVIRONMENTAL INDICATORS*

Two soil samples were collected, the first from the dump deposit (212) from the western main enclosure ditch [209] in Trench 2, the second from the buried soil horizon (318) in Trench 3. The samples were processed using a 500 micron sieve and the resultant flots were examined with a microscope at a magnification of X10.

The sample from 212 (5.5 litres) produced frequent amounts of charcoal, approximately 90% of which was less than 5mm in size. Very occasional flat hammerscale was also observed. The sample from 318 (15 litres) was almost sterile, with the exception of very small quantities of charcoal (less than 5mm in size) and several small sherds of Roman greyware.

The small size of the charcoal pieces from the samples offers limited potential for the identification of wood species, and the potential for general environmental indicators across the site is considered to be extremely poor. The presence of small amounts of hammerscale and the small piece of slag recovered from 212 is of interest, and attests to metal-working activity on or near the site.

7 *INTERPRETATION AND CONCLUSIONS*

The archaeological deposits are generally well preserved across the application area, though they have been truncated by ploughing and survival is therefore typical of other rural sites in Northamptonshire. There is only minimal damage from modern field drains.

Trial trenching has confirmed the results of the gradiometer survey and shown that many of the geophysical anomalies are indeed archaeological features. In the north-east corner of the site Trenches 1 to 4 confirmed the presence of a 'ladder' enclosure, and sample excavation of features associated with the settlement have shown it to be broadly of Roman date. Many of the ditches have been re-cut, suggesting that the enclosure, its internal divisions and general layout have more than one phase. The presence of a buried soil horizon, which seals some of the features but into which most of the features have been cut supports this view. The process by which this layer accumulated is uncertain. The upper part of this horizon was heavily disturbed in places by deep ploughing, making the recognition of archaeological features cut into it difficult within the constraints of a narrow trench.

Within the enclosure there were a series of parallel, intercutting ditches and gullies. Several isolated pits and postholes were also excavated. Small quantities of hammerscale and a single small piece of slag from the western main enclosure ditch attest to some metal-working activity on or near the site.

There was no clear evidence for any structures. The single sherd of possible Saxon pottery recovered from a small ditch in Trench 2 offers inconclusive evidence for possible Saxon activity in the area.

A light scatter of features elsewhere in the proposed development area may perhaps denote field boundaries of uncertain date. In Trench 8 a single Iron Age sherd of pottery could denote contemporary activity. Other features were undated and the absence of artefacts perhaps strengthens the possibility that these remains represent farmland features rather than settlement.

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Northamptonshire Archaeology
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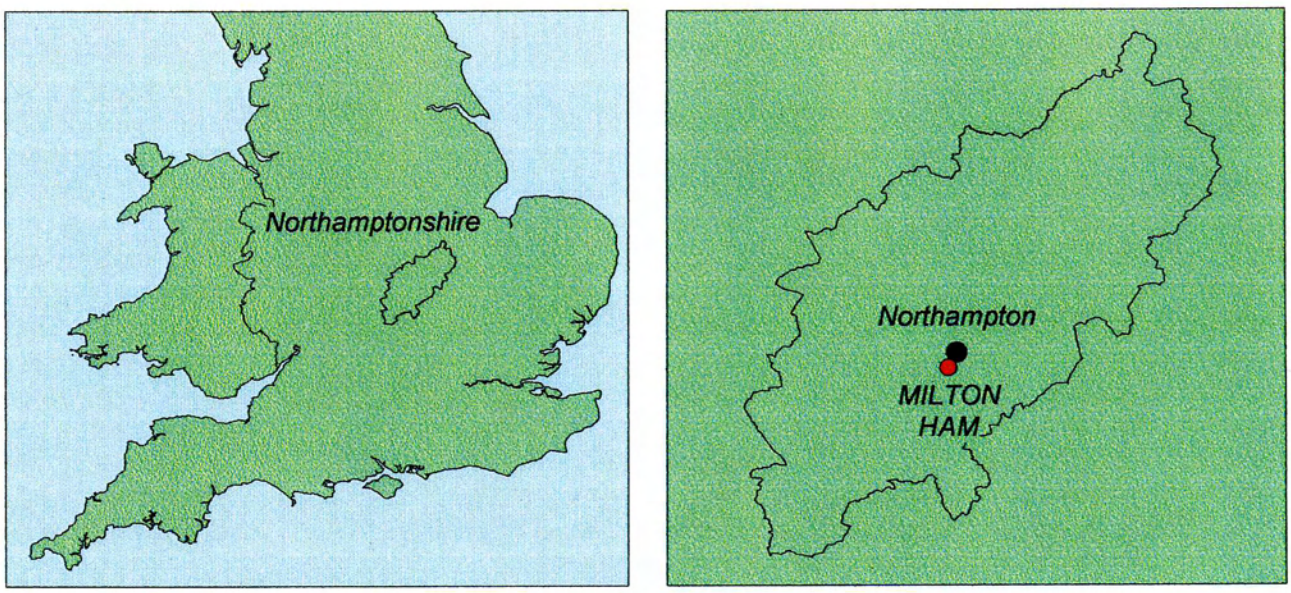
A2. TABLE OF POTTERY BY CONTEXT

FABRIC TYPE	TRENCH/CONTEXT NUMBER																			
	Trench 1										Trench 2									
	104		106		114		118		120		126		128		135		204		206	
	No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg	
Iron Age?																				
Greyware	1	17	16	352	3	40			2	13	1	11	1	23	1	27			2	2
Grog-tempered ware			1	112			1	99							1	8	1	19		
Mortaria																				
Nene Valley CC			3	10															1	2
Oxford Ware																				
Oxidised Ware	1	81																		
Samian			1	33																
Shell-gritted			2	13																
Whiteware			1	4																
Saxon ?																			1	2
Total	2	98	24	524	3	40	1	99	2	13	1	11	1	23	2	35	1	19	4	6

FABRIC TYPE	TRENCH/CONTEXT NUMBER																							
	Trench 2		Trench 3										Trench 4										Trench 8	
	212		301		304		306		308		318		404		406		410		412		415		804	
	No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg		No/Wg	
Iron Age?																							1	2
Greyware	3	22	1	9	2	14	1	7	3	104	1	7	9	95	1	19	4	12	5	10				
Grog-tempered ware					1	10							2	69							1	3		
Mortaria							1	24			1	163												
Nene Valley CC	4	5			1	3									1	2								
Oxford Ware							1	4																
Oxidised Ware													1	2										
Samian					1	4											1	1						
Shell-gritted									2	6			2	6	1	7								
Whiteware																								
Total	7	27	1	9	5	31	3	35	5	110	2	205	14	172	3	28	5	13	5	10	1	3	1	2



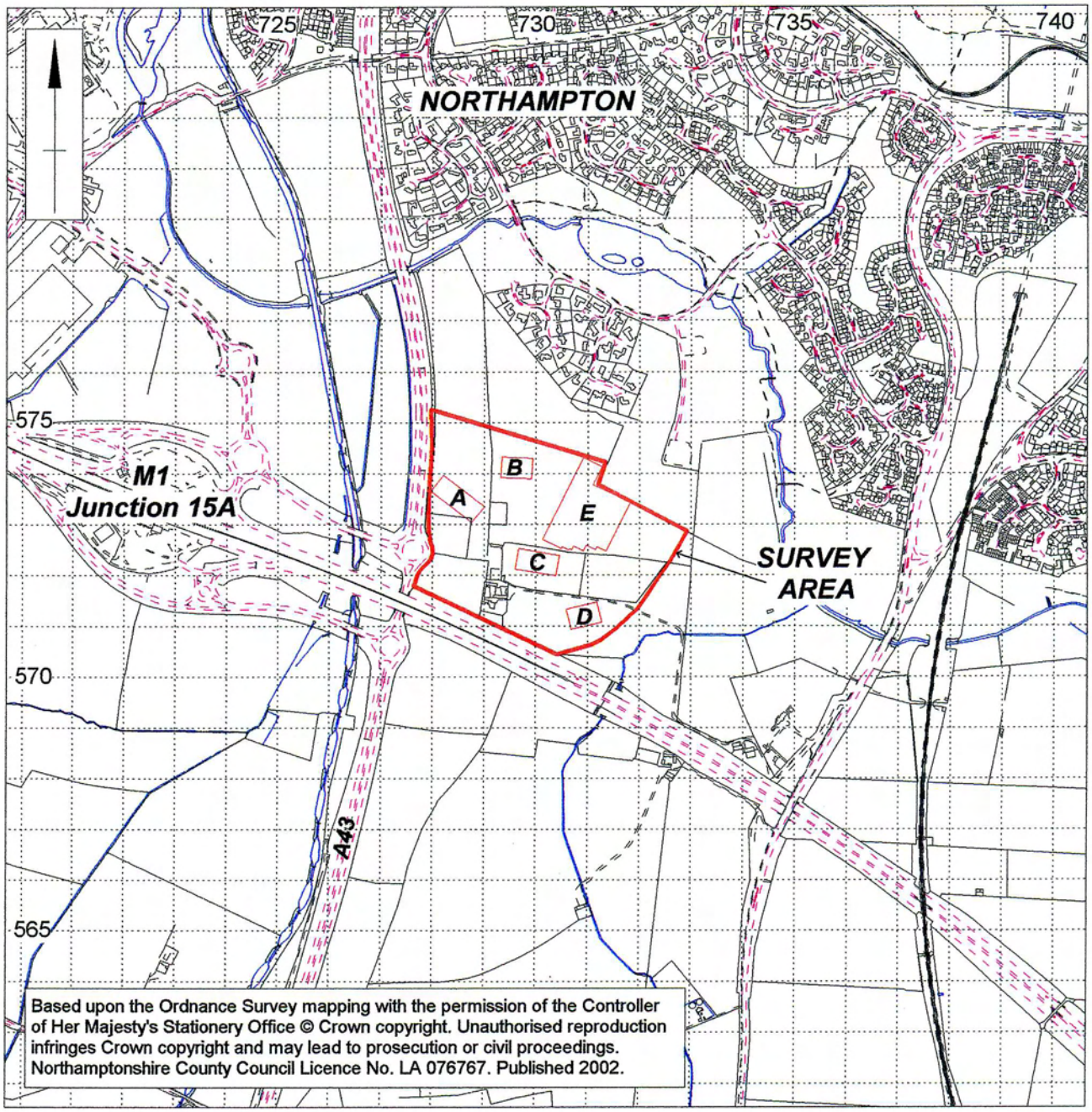


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Fig. 1

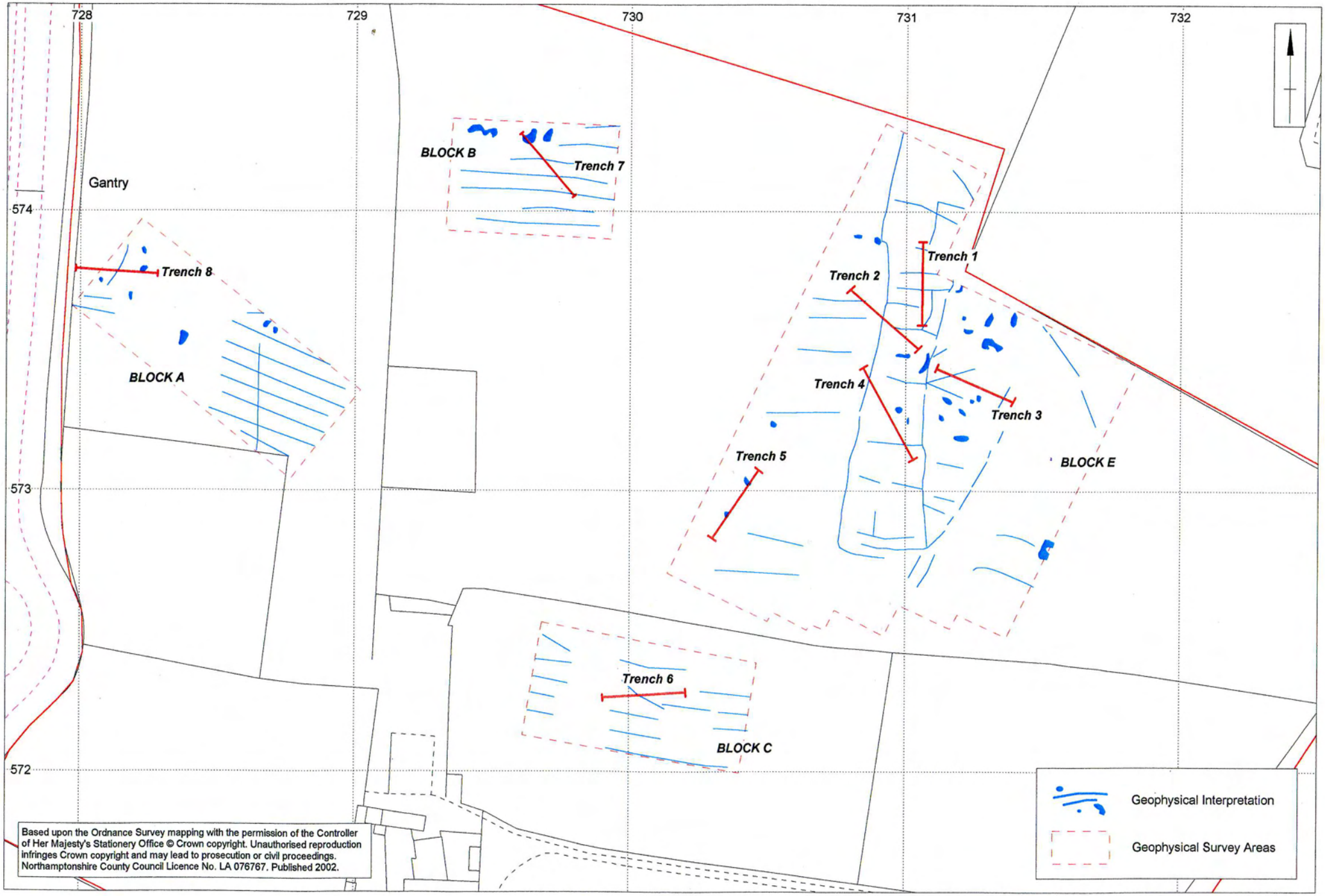

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Fig. 2

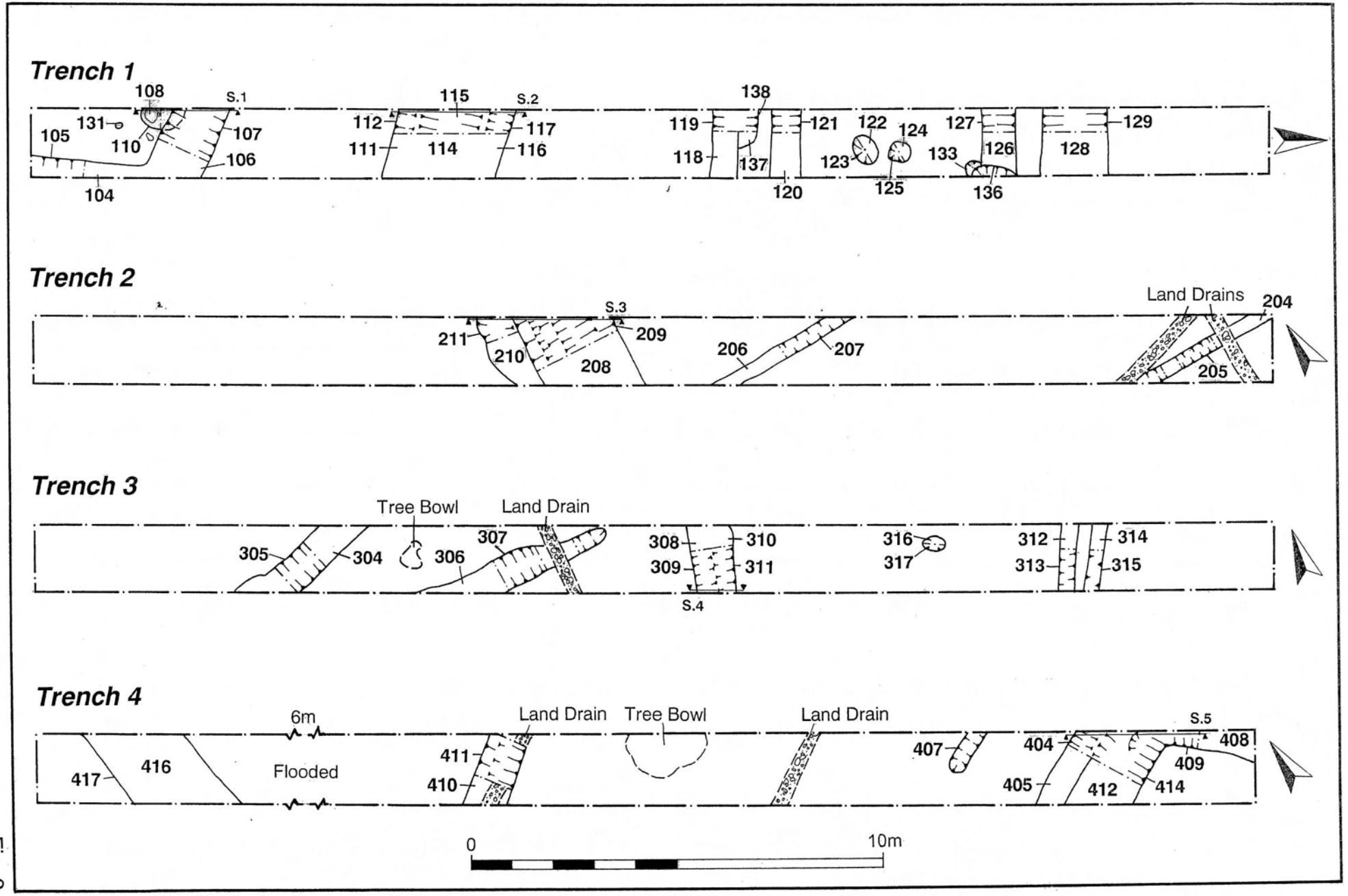
Trench 1
108
S.1
115
S.2
138
131
105
110
107
106
112
111
114
117
116
119
118
137
121
122
124
123
125
127
133
126
136
129
128
104
120
Trench 2
S.3
Land Drains
204
211
210
209
208
206
207
205
Trench 3
Tree Bowl
Land Drain
305
304
306
307
308
309
310
311
316
317
312
313
314
315
S.4
Trench 4
6m
Land Drain
Tree Bowl
Land Drain
S.5
417
416
Flooded
411
410
407
404
408
409
405
412
414
0
10m

Fig. 3

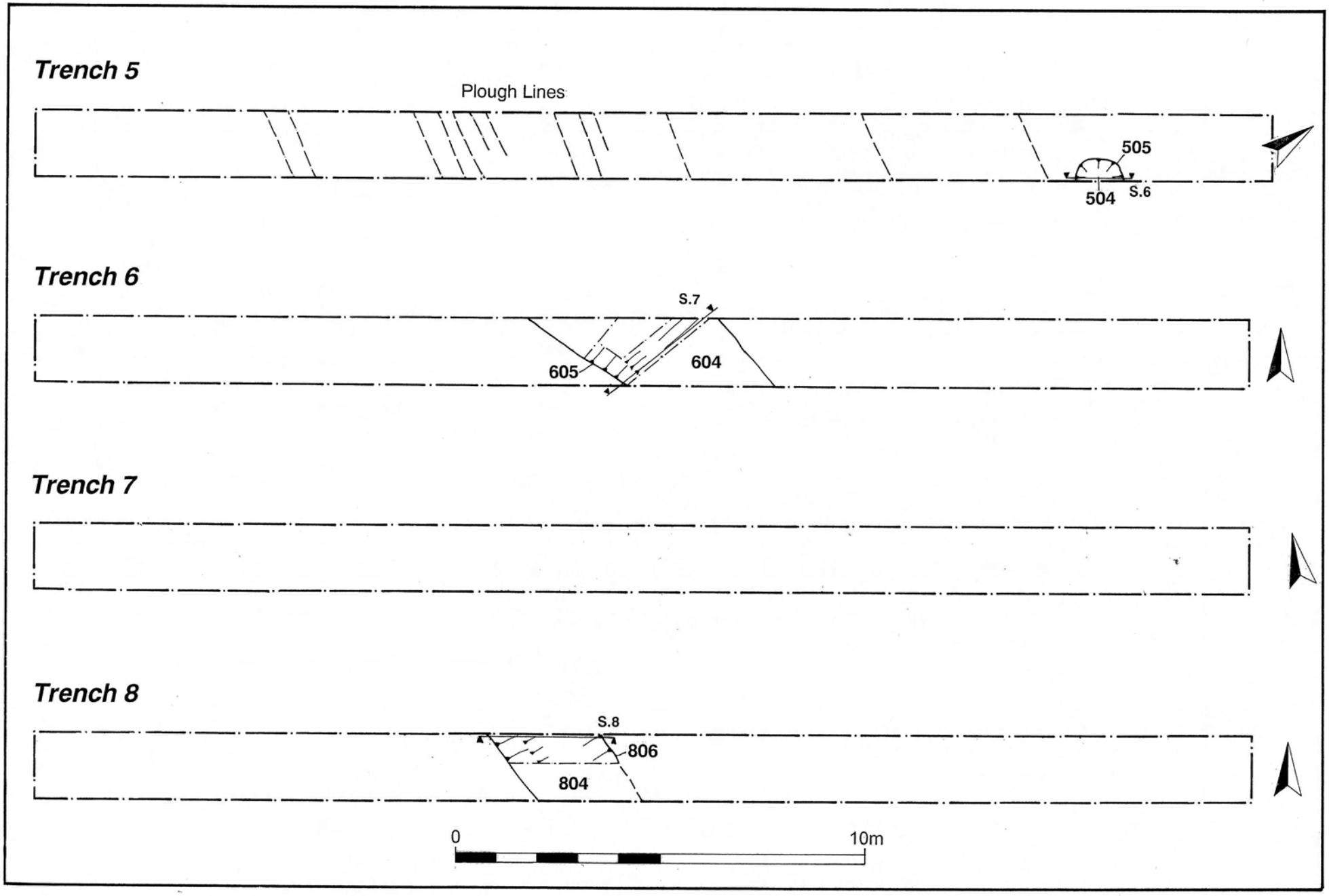
Trench 5
Plough Lines
505
504
S.6
Trench 6
S.7
605
604
Trench 7
Trench 8
S.8
806
804
0
10m

Fig. 4

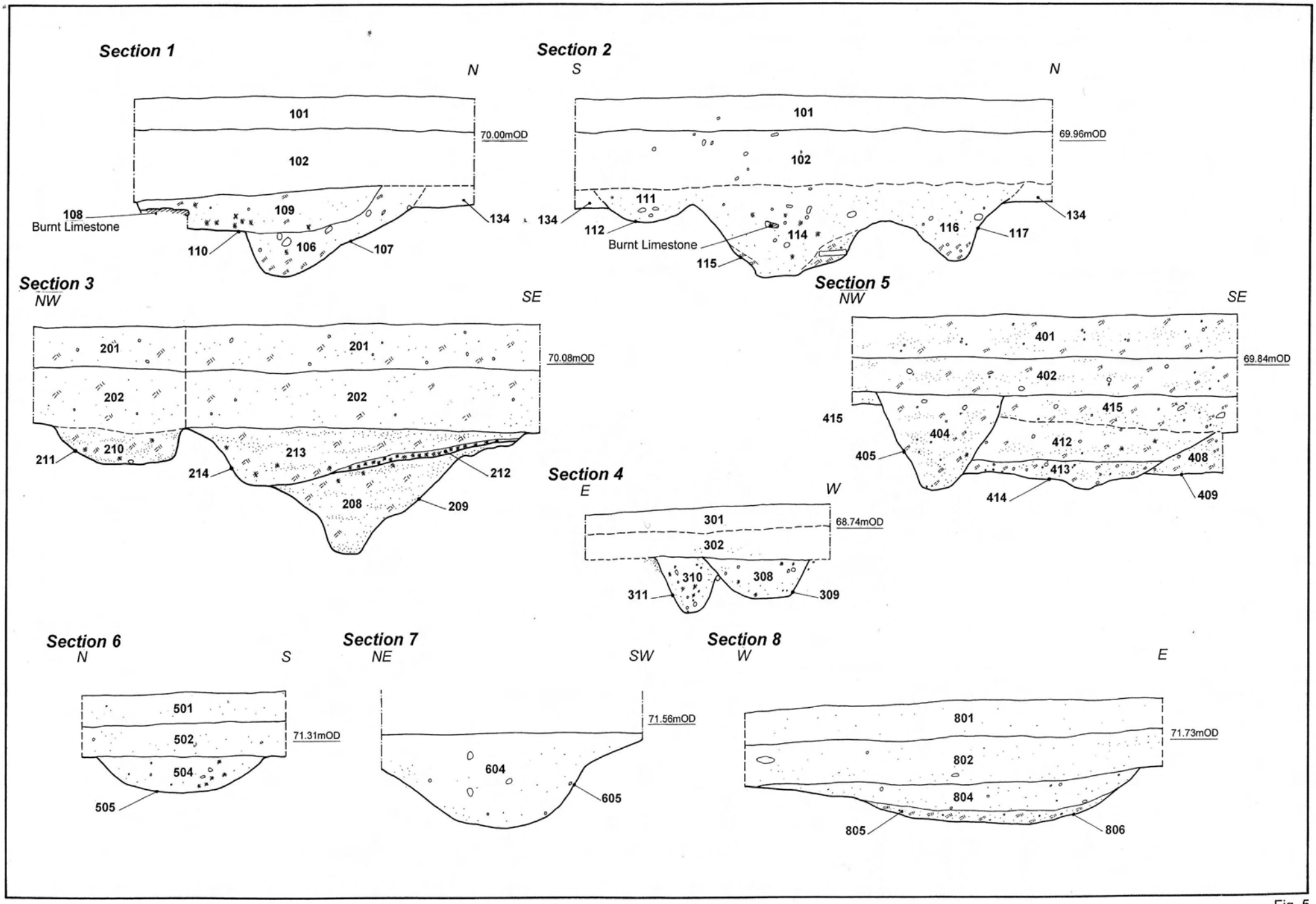
Section 1
N
101
102
70.00mOD
108
Burnt Limestone
109
134
110
106
107
Section 2
S
N
101
102
69.96mOD
111
134
112
Burnt Limestone
114
116
117
134
115
Section 3
NW
SE
201
201
202
202
70.08mOD
210
211
213
214
212
208
209
Section 5
NW
SE
401
402
69.84mOD
415
415
404
412
405
408
413
414
409
Section 4
E
W
301
302
68.74mOD
310
308
311
309
Section 6
N
S
501
502
71.31mOD
504
505
Section 7
NE
SW
71.56mOD
604
605
Section 8
W
E
801
802
71.73mOD
804
805
806

Fig. 5

ARCHAEOLOGICAL
SERVICES
WYAS

Land at Milton Ham
M1 Junction 15a
Northamptonshire

Geophysical Survey

March 2002

Report No. 984

CLIENT
Gazeley Properties Ltd

Land at Milton Ham,

M1 Junction 15a,

Northampton.

Geophysical Survey

Contents

Summary

A geophysical (fluxgate gradiometer) survey was carried out at Milton Ham, adjacent to Junction 15a of the M1. The survey comprised magnetic scanning of the whole site followed by a 20% sample detailed survey. A 'ladder' enclosure system, comprising a linear series of connecting enclosures has been identified aligned along a ridge in the eastern half of the site. Isolated responses may indicate occupational activity. Linear anomalies caused by ridge and furrow ploughing have been identified across all parts of the site.

Archaeological Services WYAS

PO Box 30, Nepshaw Lane South, Morley, Leeds LS27 0UG

1. Introduction and Archaeological Background

1.1 Archaeological Services WYAS was commissioned by Dr. R. Clark of CPM Environmental Planning and Design, on behalf of Gazeley Properties Ltd, to carry out a geophysical (fluxgate gradiometer) survey at the site of a proposed development at Milton Ham, near Northampton (see Figs 1 and 2). The proposed development area, centred at SP 730 575, covers approximately 14 hectares immediately east of Junction 15a on the M1, all of which was subject to evaluation by magnetic survey.

1.2 The survey area comprised five relatively flat fields at between 67m and 73m OD, located on Upper and Middle Lias, all of which were under permanent pasture. At the time of survey (March 4th to March 11th 2002) cattle, sheep and horses were present within the fields but no problems were encountered during the survey.

1.3 The M1 motorway and the A43 trunk road demarcated the southern and western limits of the site respectively, while those to the north and east were defined by field boundaries. The contractors compound in the south western corner of the site and the demolished farm and outbuildings reduced the total survey area by approximately 0.5 hectares.

1.4 No historical or archaeological information about the site or the immediate area was available prior to the commencement of the survey.

2. Methodology and Presentation

2.1 An evaluation proposal for the geophysical survey was produced by Archaeological Services WYAS, and submitted to the Archaeological Planning Officer of Northamptonshire County Council by Dr. Royston Clark of CPM Environmental Planning and Design for approval/amendment prior to the commencement of the survey. This proposed rapid magnetic scanning as a means of identifying potential areas of archaeological interest for further investigation by detailed magnetic survey. A maximum of 20% of the survey area was to be subjected to detailed survey in blocks no smaller than 60m by 40m.

2.2 Specific objectives of the survey were:

- to identify areas of possible archaeological activity by magnetic scanning for further investigation by detailed magnetic survey
- to use detailed magnetic survey to establish the presence, extent and character of any magnetic anomalies within the proposed development area.

2.3 Comprehensive technical details on the underlying principles of magnetic survey, the equipment used and general geophysical survey methodology are given in Appendix 1. Appendix 2 details the survey locational information and Appendix 3 describes the composition and location of the archive. Large scale, 1:500 greyscale and X–Y trace plots are presented in Appendix 4.

2.4 The survey methodology and report presentation use the recommendations outlined in the English Heritage Guidelines (David 1995) as a minimum standard. All figures reproduced from Ordnance Survey mapping are done so with the permission of the controller of Her Majesty's Stationery Office, © Crown copyright.

2.5 A general site location plan incorporating the 1:50000 Ordnance Survey mapping is shown in Figure 1. Figure 2 is a site location plan, at a scale of 1:2500, showing the greyscale gradiometer data superimposed onto an Ordnance Survey digital base map. For ease of presentation and discussion the detailed gradiometer survey data have been displayed as greyscale plots and accompanying interpretations, at a scale of 1:1250, in Figures 3 and 4.

The interpretative figures should not be looked at in isolation but in conjunction with the relevant discussion section and with the information contained in the Appendices.

3. The Magnetic Scanning; Results and Discussion

3.1 General (see Fig. 2)

3.1.1 In general the magnetic background varied across the site fluctuating by +/- 1.5nT from the mean background in any given area except in Field 1 where there was a high degree of disturbance over the whole field. 'Iron spike' responses (see Appendix 1) were noted in all parts of the site but their location was not recorded unless they occurred in significant concentrations. Similarly areas of magnetic disturbance were noted adjacent to most of the boundaries.

3.1.2 A strong negative response was noted from several infilled engineering test pits. This indicates that the topsoil has a high magnetic susceptibility and should ensure that cut features infilled with topsoil will be detectable as strong positive anomalies against the magnetic background.

3.1.3 Each field was scanned on traverses approximately 10m apart. Fields 1 and 3 were scanned along north to south traverses, perpendicular to their long axes, Field 2 was scanned along east to west traverses, perpendicular to the field's long axis, while Fields 4 and 5 were scanned parallel to their long axes on east to west traverses.

3.2 Field 1

3.2.1 The responses in Field 1 revealed a highly variable magnetic background and a great deal of magnetic disturbance which was thought to be caused by the large amount of ferrous debris, particularly in the east of the field, and to the proximity of several derelict farm buildings. For this reason this field was not considered amenable to detailed survey.

3.2.2 Two ferrous pipes were identified within the field, the first aligned from north-west to south-east and the second from west to east.

3.3 Field 2

3.3.1 There were faint hints of broad ridges, suggestive of ridge and furrow ploughing, aligned east to west across the field and also several narrow ridges that were aligned north to south in the south west of the field.

3.3.2 The magnetic background was variable in the south of this field although within this variability there seemed to be two trends of linear anomalies which corresponded with the ridges described above.

3.3.3 A short, linear anomaly, aligned from south-west to north-east along the 72m contour line, with several areas of magnetic enhancement in close proximity were identified near the western site boundary.

3.3.4 A detailed survey block of 40m by 100m (**Block A**) was located in this field to cover both the interconnecting linear anomalies in the south-east of the field and the linear anomaly and areas of magnetic enhancement.

3.4 Field 3

3.4.1 A strong dipolar linear anomaly corresponding to the line of a high-pressure gas pipe was identified cutting across the north-eastern corner of the site. The magnitude of the response from this pipe masked any lesser responses within a corridor 10m-15m either side of the pipe.

3.4.2 An area of strong disturbance was identified in the north-west corner of the field. This disturbance extended between 40m and 60m into the field and had associated areas of enhancement. Other magnetically disturbed areas and small areas of magnetic enhancement were noted along the western field boundary and ferrous debris scattered on the surface surrounding a livestock pen in the south-western corner of the field contributed to yet more magnetic disturbance. Although there were areas of magnetic enhancement present in the western part of this field the amount of magnetic disturbance and the strength of the anomalies suggested a modern origin.

3.4.3 Subtle ridges and furrows, aligned east to west, were again noted in the western and central parts of the field. A consistent series of linear anomalies aligned east to west were identified throughout much of the western area of the field corresponding with these topographic features.

3.4.4 Several stronger, positive, linear anomalies on the same alignment (east to west) were identified in the centre of the field, extending between 20m and 30m in length. These anomalies were in close proximity to a strong linear anomaly (3nT to 4nT), that seemed to follow the top of a relatively steep break of slope on the 70m contour aligned approximately north to south. This anomaly lay on the same orientation as a field boundary to the north and it was thought that the anomaly was probably caused by a ploughed out remnant of this field boundary. Several areas of magnetic enhancement and discontinuous linear anomalies, within the same general area were also identified.

3.4.5 Although it was thought that these anomalies were probably associated with a former field boundary a detailed survey of a 60m by 40 block (**Block E**) was located to cover a combination of strong linear and discrete anomalies. This detailed survey identified probable archaeological features and was subsequently expanded to encompass an additional 1.4 hectares surrounding the original block (see Section 4.6.1).

3.4.6 A second, 40m by 60m, block (**Block B**) was subject to detailed survey in the north-western corner of the field to investigate areas of magnetic enhancement and possible ridge and furrow.

3.5 Field 4

3.5.1 Extant ridge and furrow aligned east to west was noted across all of this field. Several areas of interest were noted in the western half of this field. Weak linear anomalies aligned east to west, again corresponding with the visible ridge and furrow, were identified as were two adjacent large areas of magnetic disturbance. A large piece of ferrous slag was found in the southern area of magnetic disturbance. The coincidence of such activity within a generally small area prompted the detailed survey of a 40m by 80m block (**Block C**).

3.5.2 The remains of some horse jumps, including a number of wooden and metal poles and posts as well as tyres were present in the centre of this field, close to the break of slope on the 70m contour line. An area of between 5m and 20m around these objects was magnetically disturbed.

3.6 Field 5

3.6.1 Extant ridge and furrow, aligned from east to west, was again present in this field and was again detected as a series of weak, positive, linear anomalies.

3.6.2 The western side of the field was characterised by strong magnetic disturbance, thought to be associated with the presence of the derelict farm buildings to the west. Areas of magnetic disturbance were also noted around a buried water trough and a pond in the centre of the field.

3.6.3 Although no anomalies considered to be of archaeological origin were detected during the scanning in this field a single detailed block (**Block D**) was surveyed to test the negative scanning result and provide a sample in the southern part of the site.

4. Detailed Survey; Results and Discussion

4.1 General

4.1.1 Although a number of positive linear and discrete anomalies had been identified it was thought that the results of the magnetic scanning were generally negative, in terms of possible archaeological anomalies. However, after an initial detailed survey of 10% of the total area (1.4 hectares) part of an enclosure was identified in the eastern half of Field 3. After consultation with CPM Environmental Planning and Design, it was agreed that the remaining 10% sample, as proposed in the evaluation proposal, should be used to target the area surrounding the enclosure in order to define the extent of the activity and thereby fulfil the aims of the evaluation.

4.1.2 Numerous 'iron spike' responses (see Appendix 1) have been identified across all parts of the site. These are indicative of ferrous material in the topsoil or subsoil and, although they may be caused by archaeological artefacts, they are more often caused by modern material. Unless there is strong supporting evidence to the contrary, for example if they are located close to obvious areas of archaeological activity, they are assumed not to be of archaeological importance.

4.2 Block A (Field 2)

4.2.1 Seven parallel, linear anomalies aligned west-north-west to east-south-east and between 7m and 8m apart, have been identified in the eastern part of Block A.

The separation between the anomalies suggests they are probably caused by ridge and furrow ploughing although a series of field drains could also account for the anomalies. The anomalies terminate in the centre of the survey block along a line perpendicular to the current field boundaries.

4.2.2 Also perpendicular to the current field boundaries is a single linear anomaly that could be a recently infilled field boundary ditch. However, as it is close to the highest point of the site, it could be caused by a single deep modern plough scar. It is not thought to be archaeologically significant.

4.2.3 At the western end of the block is a short curvilinear anomaly that was identified during the scanning. The short length of the anomaly (about 25m) and the lack of any other associated linear anomalies makes a definitive interpretation difficult. Nevertheless, the anomaly could certainly be caused by an infilled ditch feature.

4.3 Block B (Field 3)

4.3.1 The presence of seven parallel, linear anomalies, aligned from west to east, confirms that ridge and furrow ploughing has taken place in this area. A small area of enhancement (visible on two successive traces of the X-Y trace plot) has been identified within one of the ridges.

4.3.2 Four distinct areas of magnetic enhancement are quite clearly present along the northern edge of the block, again as identified during the scanning. Whilst an archaeological origin cannot be discounted it is thought probable that they are associated with modern intrusive activity.

4.4 Block C (Field 4)

4.4.1 The substantial magnetic disturbance noted during the scanning in the western part of the field has been clarified by the detailed survey as two main areas of disturbance with a third, less extensive area, further to the east. The presence of slag on the surface of the field could suggest that metal-working has been carried out in the vicinity, perhaps associated with local ironstone extraction. However, the tipping of strongly magnetic industrial waste for infilling or drainage purposes is considered a more likely explanation.

4.4.2 A single linear anomaly aligned from north-west to south-east has also been identified. It is impossible to give a definitive interpretation without any supporting information but the anomaly might be caused by an infilled archaeological ditch.

4.5 Block D (Field 5)

4.5.1 As seen elsewhere, very faint magnetic vestiges, resulting from ridge and furrow ploughing, can be seen on the familiar east to west orientation. No other anomalies have been identified thus confirming the negative scanning result.

4.6 Block E (Field 3)

4.6.1 This block, expanded following a small initial block of detailed survey, has identified an interconnecting series of linear and curvilinear anomalies, indicative of infilled ditches, forming a 'ladder' enclosure. This system of enclosures is aligned from north to south and follows very closely the natural contours of the land. Typologically this type of enclosure may be associated

with the late prehistoric or Romano-British periods. The strength of the anomalies is thought to reflect both the size of the outer enclosure ditches and the shallow soil near the top of the slope. The 'ladder' enclosure has a maximum width of approximately 35m at the southern end but constricts towards the centre and is 150m long, although the northern end falls outside the proposal area. The strength of response from the internal ditched divisions is very variable but there are at least eight main sub-divisions.

4.6.2 To the east of the main part of the 'ladder', but still linked to it, are several other linear and curvilinear ditch type anomalies, which suggest further enclosure and sub-division. These are much weaker in strength and may reflect a deeper soil cover lower down the slope. Several discrete areas of enhancement are identified in this area and it may be that these are caused by features indicative of occupation, with the main body of the enclosure serving to protect the occupied areas.

5. Conclusions

5.1 Detailed magnetic survey in Block E has identified a 'ladder' enclosure that may be the focus of small-scale settlement activity on its eastern side. Ridge and furrow ploughing has taken place across all parts of the site.

5.2 Although the full extent of the enclosure was not initially suggested by the scanning this was due to the scanning traverses being aligned broadly parallel with the orientation of the long axis of the enclosure, thereby not actually crossing either of the two main enclosure ditches. Nevertheless enough of the internal sub-divisions were traversed at right angles during the scanning to enable clusters of enhanced responses to be noted and used as the focus for the initial small block of detailed survey. The extra 10% sample was then used to establish the full extent of the enclosure. Other discontinuous linear anomalies in the other survey blocks may be ditches forming part of a larger system of land division.

The results and subsequent interpretation of data from geophysical surveys should not be treated as an absolute representation of the underlying archaeological and non-archaeological remains. Confirmation of the presence or absence of archaeological remains can only be achieved by direct investigation of sub-surface deposits.

Bibliography

David, A. 1995. *Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines* No. 1. English Heritage.

Acknowledgements

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A.Webb

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M. Whittingham

Figures

Appendices

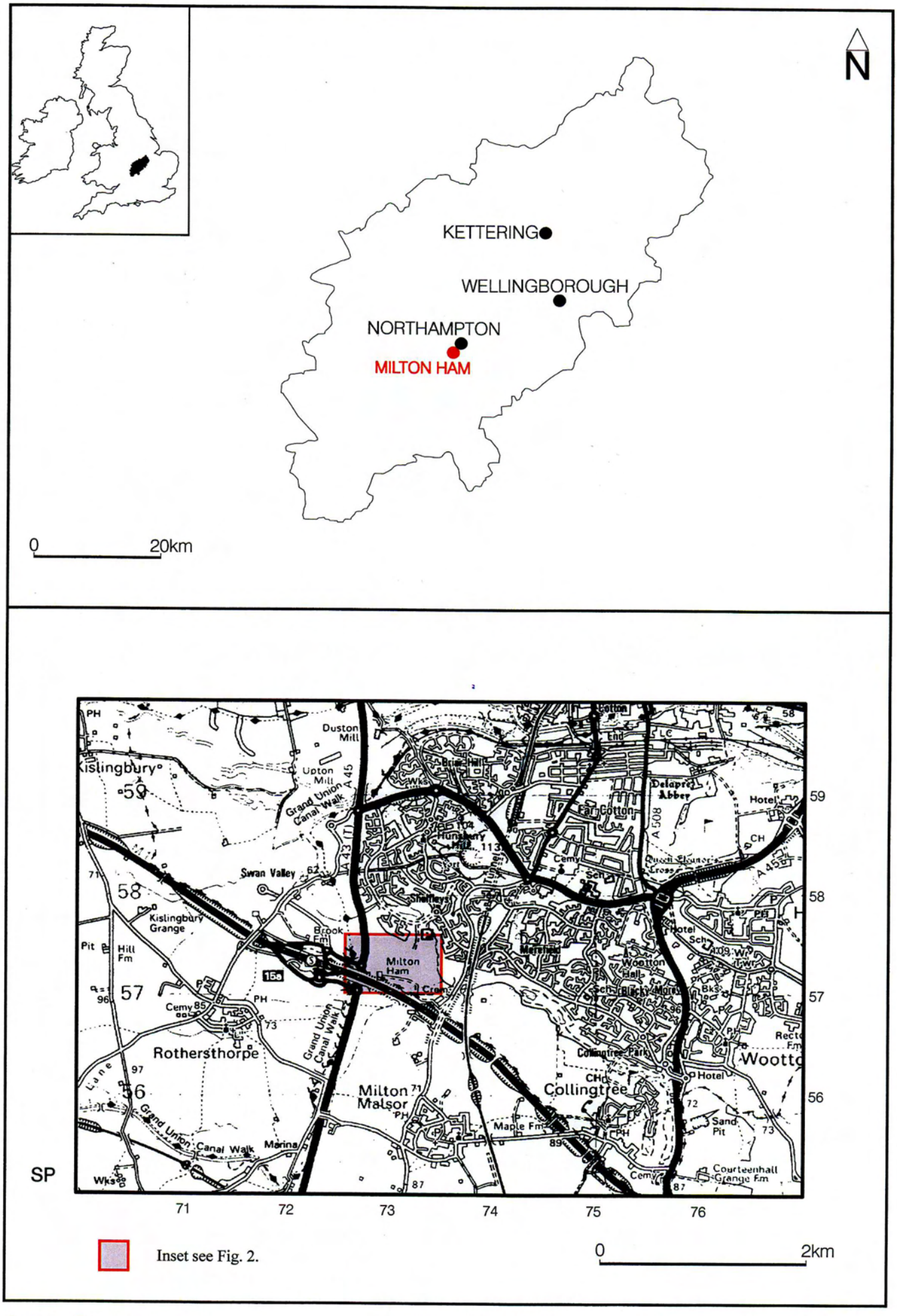

Fig. 1. Site location

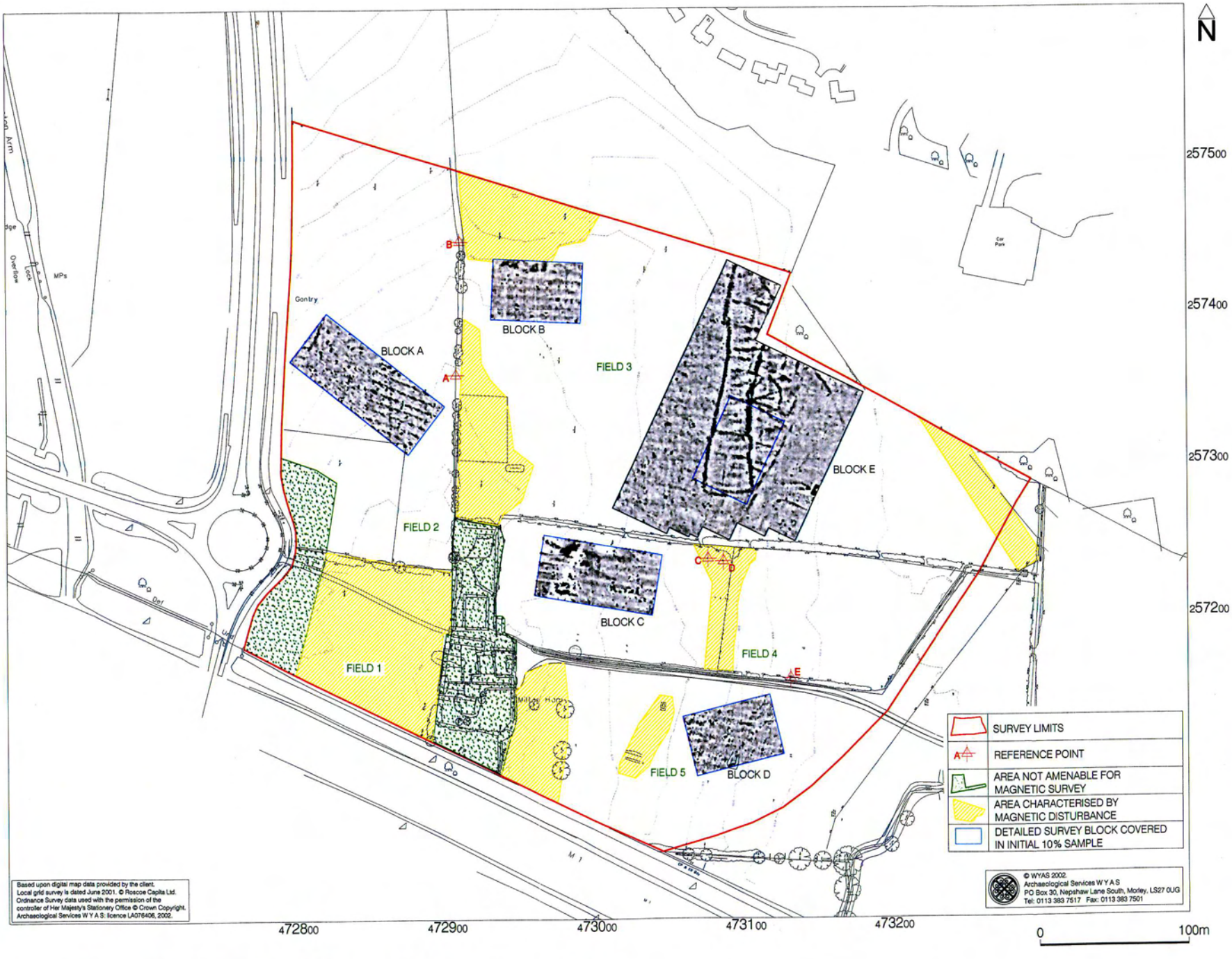

Fig. 2. Site location showing greyscale gradiometer data and magnetic survey information

Fig. 3. Greyscale gradiometer data

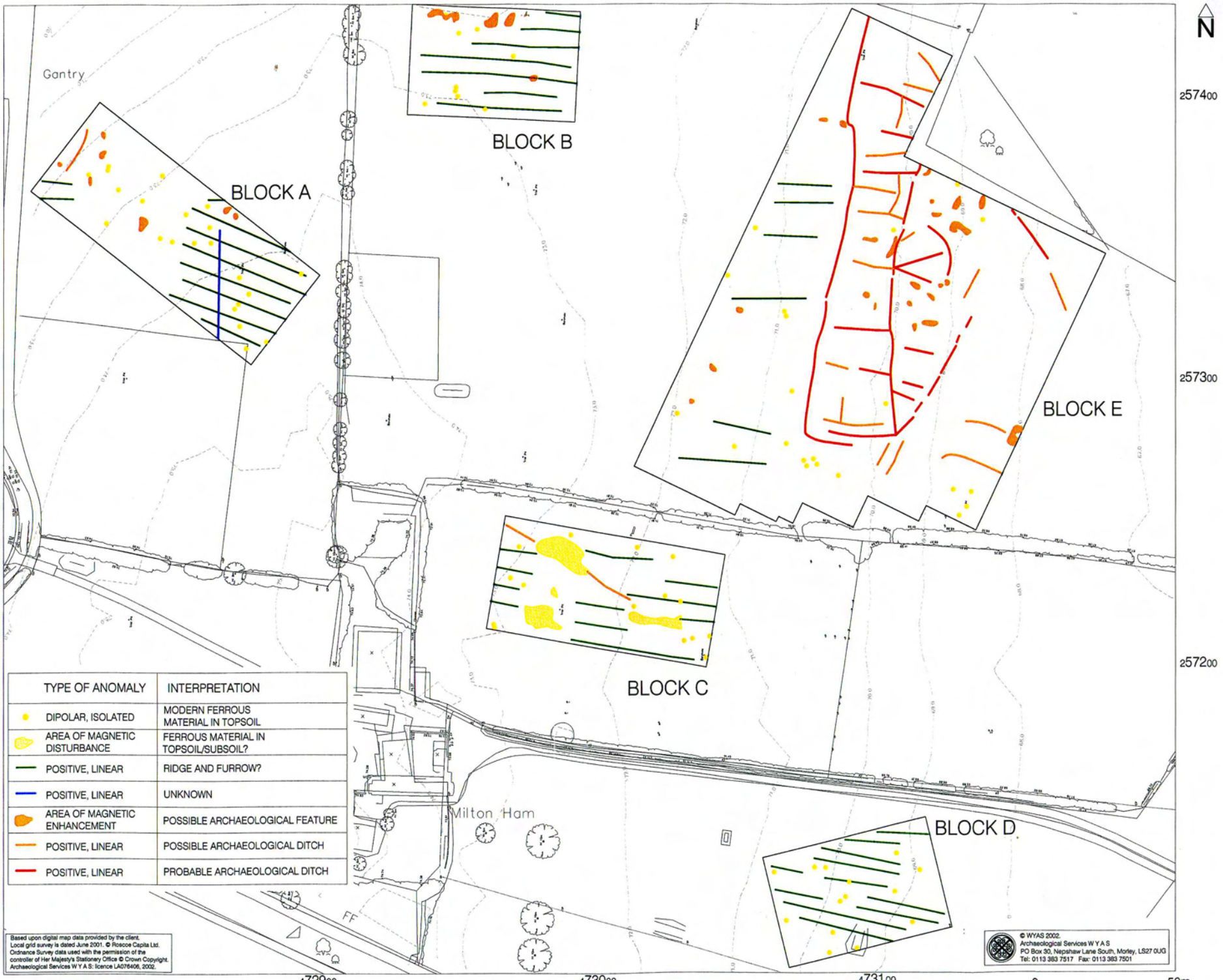

Fig. 4. Interpretation of gradiometer data